AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1 to 9. (Canceled).

10. (New) A measuring system, comprising:

a measurement device;

a second device; and

a data-transmission device configured to transmit data bits between the measurement device and the second device;

wherein the measurement device includes a signal-monitor circuit and a control element, the control element in electrical contact with a test potential source; and

wherein, in a circuit-element state, the test potential source is in contact with the signal-monitor circuit and the signal-monitor circuit is in contact with the data-transmission device.

11. (New) The measuring system according to claim 10, wherein the measurement device includes a position-measurement device.

12. (New) The measuring system according to claim 10, wherein the measurement device includes one of (a) a rotary transducer and (b) a linear-measurement device.

13. (New) The measuring system according to claim 10, wherein the second device includes a machine control device.

14. (New) The measuring system according to claim 10, wherein the second device includes a processing machine.

15. (New) A method for testing a measuring system for correct functioning, comprising:

in a normal operation of the measuring system, transmitting, by a measurement device to a second device via a data-transmission device, a bit having a constant level to signal a fault-free operation of the measuring device; and

in a test operation of the measuring system:

electrically contacting a signal-monitoring circuit of the measuring device with a test-potential source; and

in the second device, checking whether the test operation effects a change in a level of the bit in relation to the level of the bit in the normal operation.

16. (New) The method according to claim 15, wherein in the normal operation of the measuring system a change in the level of the bit triggers a reaction in the second device, in the test operation, the change in the level of the bit does not trigger any reaction in the second device.

17. (New) The method according to claim 15, further comprising electrically contacting the test-potential source and the signal-monitoring circuit in response to a signal from the second device.

18. (New) The method according to claim 15, further comprising automatically triggering the test operation in defined time intervals to test the measuring device for correct functioning.

19. (New) The method according to claim 15, further comprising manually triggering the test operation to test the measuring device for correct functioning.

20. (New) The method according to claim 15, further comprising automatically triggering the test operation to test the measuring device for correct functioning in response to specific machine states being reached.

21. (New) The method according to claim 20, wherein the specific machine states includes at least one of (a) a tool change and (b) a workpiece change.

22. (New) A measuring system, comprising:

measuring means;

second means; and

data-transmitting means for transmitting data bits between the measuring means and the second means;

wherein the measuring means includes signal-monitoring circuit means and control element means, the control element means in electrical contact with a test potential source means; and

wherein, in a circuit-element state, the test potential source means is in contact with the signal-monitoring circuit means and the signal-monitoring circuit means is in contact with the data-transmitting means.